

## ABSTRACT

A method for performing time and frequency Signal-to-Noise Ratio (SNR) dependent weighting in speech recognition is described that includes for each period  $t$  estimating the SNR to get time and frequency SNR information  $\eta_{t,f}$ ; calculating the time and frequency weighting to get  $\gamma_{tf}$ ; performing the back and forth weighted time varying DCT transformation matrix computation  $MG_tM^{-1}$  to get  $T_t$ ; providing the transformation matrix  $T_t$  and the original MFCC feature  $o_t$  that contains the information about the SNR to a recognizer including the Viterbi decoding; and performing weighted Viterbi recognition  $b_j(o_t)$ .